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EXAMINER

MANCHO, RONNIE M

ART UNIT	PAPER NUMBER
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3663

NOTIFICATION DATE	DELIVERY MODE
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10/22/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/813,264

Applicant(s)

ITO ET AL.

Examiner

Ronnie Mancho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1-6, 9-14 are objected to because of the following informalities:

The application recites “road surface obtaining means for obtaining”, “specific process executing means for comparing”, “motion state quantity obtaining means for obtaining motion state”, etc. The applicant has not properly invoked the 112 sixth paragraph because of the recitation of the structure or ACTS that perform the “obtaining” and comparing, etc. The remark applies to the other means clauses in the claims. See MPEP 2181 (R-3).

An example of properly invoking the 112 sixth paragraph is to write, “road surface obtaining means for obtaining a road bank angle of a road surface” as --means for obtaining a road bank angle of a road surface--; “specific process executing means for comparing” as --means for comparing--, etc. Applicant is encouraged to use this model to correct the rest of the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-6, 9-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Lu et al (7003389).

Regarding claim 1, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27; col. 6-12) disclose a control device for a vehicle comprising:

road surface obtaining means 64 (col. 7, lines 57-60) for obtaining a road bank angle (fig. 3B; col. 5, line 46; col. col. 7, lines 65 to col. 8, line 8; col. 10, lines 64; col. 11, line 7) of a road surface, on which a vehicle runs in the vehicle body roll direction (figs. 3B; col. 5, lines 29-51; col. 7, lines 65 to col. 8, line 11); and

specific process executing means for comparing the obtained road bank angle itself with a predetermined value (i.e. road bank angle is greater than zero, col. 5, lines 46-51; col. 7, lines 65-col. 8, line 11) and for starting a specific process for preventing a roll angle of the vehicle from increasing (i.e. vehicle is prevented from rolling over, by applying brakes, controlling steering, suspension, etc; col. 5, lines 46-51; col. 6, lines 14-20; col. 7, line 65 to col. 8, line 10; col. 10, lines 20-24; col. 12, lines 51-62) when the obtained road bank angle itself becomes greater than the predetermined value (i.e. road bank angle is greater than zero, col. 5, lines 46-51; col. 7, lines 65-col. 8, line 11).

The road bank, angle θ_{bank} in fig. 3B, col. 5, lines 46-51 is compared to the threshold zero. The bank angle has to be greater than zero to cause or increase a roll over of the vehicle (known as off-camber divergent state). In col. 7, lines 65 to col. 8, line 11, roll stability is executed during a divergent roll condition such (an off-camber divergent state, fig. 3B; col. 5, lines 46-51).

In another scenario the road bank, angle θ_{bank} is illustrated in col. 10, lines 64, equation (5). Now, equation (5) is used in equation (14), col. 12, line 56. Based on equation 14 rolling over i.e. roll over angle of the vehicle is prevented thus preventing the vehicle from rolling over when the road bank, angle θ_{bank} is greater than zero (col. 5, line 45-51).

Regarding claim 2, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 1, wherein the road surface obtaining means is provided with:

motion state quantity obtaining means for obtaining motion state quantity showing a motion state of the vehicle (col. 6, lines 28-67);

estimated lateral acceleration calculating means for calculating, as an estimated lateral acceleration, an estimated value of a lateral acceleration that is a component of the acceleration exerted on the vehicle in the lateral direction of the vehicle body, based upon the obtained motion state quantity (col. 6, lines 28-67, fig. 4); and

a lateral acceleration sensor for obtaining the actual value of the lateral acceleration as an actual lateral acceleration by detecting the value of the component of external force exerted on the vehicle in the lateral direction of the vehicle body (col. 6, lines 37-67, fig. 4); wherein

the road surface obtaining means is configured to obtain the road bank angle based upon the result of the comparison between the calculated estimated lateral acceleration and the obtained actual lateral acceleration (col. 6, lines 28-67, fig. 4).

Regarding claim 3, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 2, wherein the road surface obtaining means is configured to obtain the road bank angle based upon a difference between the calculated estimated lateral acceleration and the obtained actual lateral acceleration.

Regarding claim 4, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 2, wherein the specific process executing means is configured to start the specific process when the obtained road bank angle itself becomes greater than the predetermined value and when the value of the obtained actual lateral acceleration is greater than the value of the calculated estimated lateral acceleration.

Regarding claim 5, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 2, wherein the motion state quantity obtaining means is configured so as to obtain the wheel speed of each wheel of the vehicle as the motion state quantity, and the estimated lateral acceleration calculating means is configured to calculate the estimated lateral acceleration based upon the difference between the wheel speed of the wheels at the left side of the vehicle body and the wheel speed of the wheels at the right side of the vehicle body.

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Regarding claim 6, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 5, wherein the estimated lateral acceleration calculating means is configured to calculate the estimated lateral acceleration based upon the difference between the average of the wheel speeds of the front-left and rear-left wheels and the average of the wheel speeds of the front-right and rear-right wheels.

Regarding claim 9, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 1, wherein the specific process executing means is configured to start at least one of a process for producing an alarm and a process for decelerating the vehicle as the specific process.

Regarding claim 10, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 2, wherein the specific process executing means is configured to start at least one of a process for producing an alarm and a process for decelerating the vehicle as the specific process.

Regarding claim 11, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 10, wherein the process for decelerating the vehicle includes a process for producing braking force on the wheels of the vehicle by a brake fluid pressure regardless of an operation of a brake pedal.

Regarding claim 12, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle claimed in claim 10, wherein

at least one of a process for producing an alarm (i.e. flag, col. 9, lines 36-48) and a process for decelerating the vehicle (applying brakes, col. 6, lines 11-21; col. 12, lines 8-11, lines 59-62) as the specific process is executed depending upon an amount of time (col. 8, lines 58 to col. 9, line 5; col. 10, lines 1-24; col. 11, line 60, col. 12, lines 30) during the obtained road bank angle itself continues to be greater than the predetermined value.

Regarding claim 13, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle as in claim 1, wherein the specific process executing means is configured to start the specific process when the obtained road bank angle itself becomes greater than the predetermined value, and when a vehicle body speed is not less than a predetermined vehicle speed.

Regarding claim 14, Lu et al (figs. 1-6; abstract; col. 3, lines 40-67; col. 4, lines 34-67; col. 5, lines 29-67; col. 6, lines 1-27) disclose the control device for a vehicle as in claim 1, wherein the specific process executing means starts at least one of a plurality of specific processes for preventing the roll angle of the vehicle from being excessive depending upon an amount of time during which the obtained road bank angle continues to be greater than the predetermined value (col. 8, lines 58 to col. 9, line 5; col. 10, lines 1-24; col. 11, line 60, col. 12, lines 30).

Response to Arguments

4. Applicant's arguments filed 8/3/07 have been fully considered but they are all not persuasive.

The 112 rejections have been withdrawn in view of applicant's amendments.

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Applicant argues that the prior art does not disclose obtain road bank angle, “comparing the *road bank angle itself* with a predetermined value”. And further that the prior art does not disclose that, “when *the road bank angle itself* is greater than a predetermined value, the system starts a specific process for preventing a roll angle of the vehicle from becoming excessive.

The examiner respectfully disagrees. Applicant is referred to col. 7, lines 57 to col. 8, lines 11. Lu discloses a module for obtaining road bank angle.

The road bank, angle θ_{bank} in fig. 3B, col. 5, lines 46-51 is compared to the threshold zero. The bank angle has to be greater than zero to cause or increase a roll over of the vehicle (known as off-camber divergent state). In col. 7, lines 65 to col. 8, line 11, roll stability is executed during a divergent roll condition such (an off-camber divergent state, fig. 3B; col. 5, lines 46-51).

In another scenario the road bank, angle θ_{bank} is illustrated in col. 10, lines 64, equation (5). Now, equation (5) is used in equation (14), col. 12, line 56. Based on equation 14 rolling over i.e. roll over angle of the vehicle is prevented thus preventing the vehicle from rolling over when the road bank, angle θ_{bank} is greater than zero (col. 5, line 45-51).

These sections anticipate comparing road bank angle with a threshold and states that if the road bank angle is greater than the threshold, zero a process for stopping the vehicle from rolling over (i.e. roll angle of vehicle is restrained as claimed) vehicle is started

It is further noted that the examiner has provided an example how applicant may write the claim to meet the specification of 112 sixth paragraph.

It is believed that the rejections are proper and thus stand.

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Communication

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronnie Mancho whose telephone number is 571-272-6984. The examiner can normally be reached on Mon-Thurs: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ronnie Mancho
Examiner
Art Unit 3663

10/6/2007

JACK KEITH
SUPERVISORY PATENT EXAMINER